

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A method of detecting a fluorescent molecule in a test sample, comprising the following steps:

- (a) a step of measuring in a time-dependent manner individual fluorescence intensities of a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime; and
- (b) a step of comparing the measured fluorescence intensities.

Claim 2 (original): A method of detecting a substance to be measured in a test sample, comprising the following steps:

- (a) a step of labeling the substance to be measured with a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime;
- (b) a step of measuring in a time-dependent manner individual fluorescence intensities of the fluorescent molecules labeling the substance; and
- (c) a step of comparing the measured fluorescence intensities.

Claim 3 (original): A method of judging the type of a substance to be measured in a test sample, comprising the following steps:

- (a) a step of labeling the substance to be measured with a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime;
- (b) a step of measuring in a time-dependent manner individual fluorescence intensities of the fluorescent molecules labeling the substance;
- (c) a step of comparing the measured fluorescence intensities; and
- (d) a step of judging the types of the substances to be measured using the intensity ratios obtained by the comparison.

Claim 4 (currently amended): The method according to ~~any one of claims 1 to 3~~claim 1, wherein the plurality of species of fluorescent molecules comprise fluorescent molecules belonging to individual groups of different three or more groups selected from the group consisting of a group having an inherent fluorescence lifetime of 0.01 ns or more and less than 1.0 ns; a group having an inherent fluorescence lifetime of 1.0 ns or more and less than 2.0 ns; a group having an inherent fluorescence lifetime of 2.0 ns or more and less than 3.0 ns; a group having an inherent fluorescence lifetime of 3.0 ns or more and less than 4.0 ns; a group having an inherent fluorescence lifetime of 4.0 ns or more and less than 5.0 ns; a group having an inherent fluorescence lifetime of 5.0 ns or more and less than 6.0 ns; and a group having an inherent fluorescence lifetime of 6.0 ns or more and less than 7.0 ns.

Claim 5 (currently amended): The method according to ~~any one of claims 1 to 3~~claim 1, wherein the plurality of species of fluorescent molecules comprise three or more fluorescent molecules which are different from each other by 1.0 ns or more in fluorescence lifetime.

Claim 6 (currently amended): The method according to ~~any one of claims 1 to 3~~claim 1, wherein the plurality of species of fluorescent molecules comprise three or more fluorescent molecules which are different from each other by a factor of 1.1 or more in fluorescence lifetime.

Claim 7 (currently amended): The method according to ~~any one of claims 1 to 3~~claim 1, wherein the fluorescence lifetime is 30 ns or less.

Claim 8 (original): The method according to claim 1, wherein at least one of the fluorescent molecules has a known concentration.

Claim 9 (currently amended): The method according to ~~any one of claim 2 to 7~~claim 2, wherein at least one of the substances to be measured has a known concentration.

Claim 10 (currently amended): The method according to ~~any one of claims 2 to 9~~claim 2, wherein the substance to be measured is a probe or target.

Claim 11 (original): The method according to claim 10, wherein the probe or target is nucleic acid.

Claim 12 (original): A method of analyzing a fluorescent molecule in a test sample, comprising the following steps:

- (a) a step of measuring in a time-dependent manner individual fluorescence intensities of a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime and preparing a fluorescence lifetime function represented by the following formula I:

$$f(t) = \sum_{i=1}^k A_i \exp(-t / \tau_i) \quad (I)$$

where A_i is a coefficient; t is time; and τ_i is fluorescence lifetime;
and

- (b) a step of calculating fluorescence intensities using said function.

Claim 13 (original): A method of analyzing a substance to be measured, comprising the following steps:

- (a) a step of labeling the substance to be measured with a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime;
(b) a step of measuring in a time-dependent manner fluorescence intensities of the fluorescent molecules labeling the substance and preparing a fluorescence lifetime function represented by the following formula I:

$$f(t) = \sum_{i=1}^k A_i \exp(-t / \tau_i) \quad (I)$$

where A_i is a coefficient; t is time; and τ_i is fluorescence lifetime;

and

- (c) a step of calculating fluorescence intensities using said function.

Claim 14 (currently amended): The method according to claim 12~~-or-13~~, wherein the calculation of fluorescence intensities is calculation of the product of coefficient A_i and fluorescence lifetime τ_i .

Claim 15 (original): A method of judging the type of a gene, comprising the following steps:

- (a) a step of labeling the gene in a test sample with a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime;
- (b) a step of measuring in a time-dependent manner fluorescence intensities of the fluorescent molecules labeling the substance and preparing a fluorescence lifetime function represented by the following formula I:

$$f(t) = \sum_{i=1}^k A_i \exp(-t / \tau_i) \quad (I)$$

where A_i is a coefficient; t is time; and τ_i is fluorescence lifetime;

- (c) a step of calculating fluorescence intensities using said function to thereby detect the fluorescence intensities of said fluorescent molecules; and
- (d) a step of judging the type of the gene using said fluorescence intensities as indicators.

Claim 16 (original): The method according to claim 15, wherein the calculation of fluorescence intensities is calculation of the product of coefficient A_i and fluorescence lifetime τ_i .

Claim 17 (currently amended): The method according to ~~any one of claims 1 to 16~~claim 1, wherein the fluorescence lifetime of at least one of the fluorescent molecules is known.

Claim 18 (original): A reagent or kit for detecting a substance to be measured, comprising a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime.

Claim 19 (original): An apparatus for detecting a fluorescent molecule in a test sample, comprising the following means:

- (a) means for measuring in a time-dependent manner individual fluorescence intensities of a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime; and
- (b) means for comparing the measured fluorescence intensities.

Claim 20 (original): An apparatus for quantitatively determining a substance to be measured in a test sample, comprising the following means:

- (a) means for labeling the substance to be measured with a plurality of species of fluorescent molecules each having an inherent fluorescence lifetime;
- (b) means for measuring in a time-dependent manner individual fluorescence intensities of the fluorescent molecules labeling the substance; and
- (c) means for comparing the measured fluorescence intensities.